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10/756,427	01/14/2004	Petteri Poyhonen	60279.00078	2678
32294 7590 01/12/2009 SQUIRE, SANDERS & DEMPSEY L.L.P. 8000 TOWERS CRESCENT DRIVE 14TH FLOOR VIENNA, VA 22182-6212				
EXAMINER				
SHIN, KYUNG H				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/756,427

**Applicant(s)**

POYHONEN ET AL.

**Examiner**

Kyung Hye Shin

**Art Unit**

2443

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2, 4, 6 - 14, 16 - 19, 21 - 39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 6 - 14, 16 - 19, 21 - 39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-083)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. This action is responding to application amendments filed on **8-28-2008**. Claims **1, 2, 4, 6 - 14, 16 - 19, 21 - 39** are pending. Claims **1, 24** have been amended. Claims **3, 5, 15, 20** have been cancelled. Claims **1, 19, 34, 35, 36** are independent. This application was filed on **1-14-2004**.

### ***Response to Arguments***

2. Applicant's arguments filed 8-28-2008 have been fully considered but they are moot due to new grounds of rejection.

### ***Specification***

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: **Claim 34** uses a term as "a computer program embodied on a *computer readable medium*", but the term is not defined in the specification, so that the meaning of the term in the claims is not ascertainable by reference to the specification. The specification objection has been maintained.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. The claimed invention is directed to non-statutory subject matter. Claims 19, 21 - 33, 35 - 39 are directed towards an apparatus, which is to be construed as an apparatus of *software per se*, unless module of the apparatus makes clear in specification that the only reasonable interpretation of the word "apparatus" is limited to hardware inclusive, tangible, embodiment. The specification on Page 2 discloses: "Load balancing can be implemented with hardware, *software*, or a *combination of both*." In the broadest embodiment, the claimed invention is implemented using *software only* and therefore is based on non-statutory subject matter.

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 4, 6 - 14, 16 - 19, 21 - 39 are rejected under 35 U.S.C. 103 (a) as being unpatentable over **McCanne et al.** (US Patent No. 6,415,323) in view of **Brown et al.** (US Patent No. 7,155,515) and further in view of **Cable et al.** (US Patent No. 6,854,013).

**Regarding Claim 1**, McCanne discloses a method comprising:

- a) providing a service with a service process in a server; (McCanne col 3, ll 45-54; col 19, ll 27-34: service providing server)

- b) configuring a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers; (McCanne col 4, ll 59-66: network layer load balance, services providing; col 5, ll 21-25; col 5, ll 58-60: anycast communications protocol (IPv6); col 5, ll 7-10: server farm (cluster), process services based on load; col 3, ll 45-54: servers provides messaging between servers)
- c) monitoring the service process and the service-specific anycast address configured interface; (McCanne col 6, ll 8-10; col 6, ll 25-26; col 12, ll 9-15: monitoring service processing of services)
- e) sending an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling. (McCanne col 7, ll 34-40: server advertisement, available service(s))

McCanne discloses a usage of an advertisement message. (McCanne col 7, ll 34-40: advertisement message(s) from server) McCanne does not explicitly disclose scheduling the service process.

However, Brown discloses:

- d) scheduling the service process; (Brown col 6, ll 1-7: selecting new intake as function of rating value (criteria: load parameter); selected resource (server) broadcasts message to rest of resources (servers) of identity as new intake; col 6, ll 14-23: if load value exceeds a predetermined threshold then the intake selects another resource (server) to be designated as the new intake; current

intake resource (server) broadcasts a message to all other resources (servers) identifying new intake; col 5, ll 41-46: single entry point for service called an intake; col 5, ll 31-34: resource/server are equivalent)

Scheduling Process - Specification pg 5, ll 11-24, discloses: a scheduling process whereby a server broadcasts an anycast (address) message as the server to handle all client requests for a time period (equivalent to the intake); after scheduled time period expires another server broadcasts an anycast (address) message to handle all client requests.

It would have been obvious to one of ordinary skill in the art to modify McCanne for scheduling the service process as taught by Brown. One of ordinary skill in the art would have been motivated to employ the teachings of Brown in order for balancing resource utilization in a cluster of resources by assigning related service requests to a specific resource to efficiently process the service requests. (Brown col 1, ll 6-10: “ ... *The present invention generally relates to a method and system for balancing resource utilization in a cluster of resources, and more specifically, to assigning related service requests to a specific resource to efficiently process the service requests. ...* ”)

McCanne-Brown does not explicitly disclose taking advertisement messages received from other servers into account in determining the need for an advertisement message. However, Cable discloses wherein to take advertisement messages received to the service-specific anycast address from other servers into

account in determining the need for an advertisement message. (Cable col 4, ll 31-43: each server advertises its available bandwidth or capacity; server controller takes this information into account for all of the servers; then offers fair shares of the servers' aggregate egress bandwidth; (server advises of unused capacities of all servers; then advertises aggregate unused capacity))

It would have been obvious to one of ordinary skill in the art to modify McCanne-Brown to take advertisement messages received from other servers into account in determining the need for an advertisement message as taught by Cable. One of ordinary skill in the art would have been motivated to employ the teachings of Cable in order for optimizing network service for users of packet switched networks and for determining the best server to satisfy a user's request and ensuring there is adequate bandwidth between that server and user. (Cable col. 1, lines 6-11: "... *The present invention relates to a method and apparatus for optimizing network service for users of packet switched networks such as the Internet and, more particularly, for determining the best server to satisfy a user's request and ensuring there is adequate bandwidth between that server and user. ...* ")

**Regarding Claims 2, 23,** McCanne discloses the method, apparatus according to claims 1, 19, where the sending of the advertisement message is activated by a solicitation message from the router. (McCanne col 7, ll 34-40: routing information (advertisement) transfer from router to server)

**Regarding Claims 4, 24,** McCanne discloses the method, apparatus according to claims 2, 23, wherein neighbor discovery protocol is used, wherein said solicitation message is a neighbor solicitation message and said advertisement message is an unsolicited neighbor advertisement message wherein an override flag is set. (McCanne col 18, ll 19-24: neighbor discovery protocol; col 9, ll 33-42; col 9, line 61 - col 10, line 2: service discovery utilizing DNS naming convention); col 7, ll 34-40; col 8, ll 14-23: advertisement messaging to manage load balancing and service requests)

**Regarding Claims 6, 25,** McCanne discloses the method, apparatus according to claims 1, 19, further comprising: sending of a advertisement message. (McCanne col 7, ll 34-40: server advertisement, available service(s)) McCanne does not explicitly disclose delaying the sending of a message. However, Brown discloses wherein delaying the sending of a message. (Brown col 16, ll 9-11: function may simply be a time, causing the intake (designated server) to move at predetermined intervals and sending of broadcast message)

It would have been obvious to one of ordinary skill in the art to modify McCanne for delaying the sending of a message as taught by Brown. One of ordinary skill in the art would have been motivated to employ the teachings of Brown in order for balancing resource utilization in a cluster of resources by assigning related service requests to a specific resource to efficiently process the service requests. (Brown col 1, ll 6-10)



**Regarding Claims 7, 26,** McCanne discloses the method, apparatus according to claims 1, wherein if the server receives less than a predefined number of service queries in a predefined time interval, the method further comprises: stopping the sending of the advertisement messages; and switching to a standby mode. (McCanne col 7, ll 49-52: advertisement message(s) stopped)

**Regarding Claims 8, 27,** McCanne discloses the method, apparatus according to claims 7, 26, wherein if the server being in the standby mode receives a solicitation message, the sending of the advertisement messages continues. (McCanne col 7, ll 34-40: send advertisement message(s))

**Regarding Claims 9, 28,** McCanne discloses the method, apparatus according to claims 1, 19, wherein when the service process in a server stops, sending of the advertisement messages is stopped. (McCanne col 7, ll 49-52: service stops, advertisement stops)

**Regarding Claims 10, 29,** McCanne discloses the method, apparatus according to claims 1, 19, wherein open shortest path first version 6 protocol is used in communication between the router and the servers. (McCanne col 5, ll 21-25: col 7, ll 42-52: IPv6 (anycast) communications, OSPF protocol; col 12, ll 50-54, col 8, ll 52-53: utilizing (open) shortest path protocol)

**Regarding Claims 11, 30,** McCanne discloses the method, apparatus according to claims 1, 19, further comprising: sending an advertisement message with a route cost value suitable for the current situation in the server. (McCanne col 18, ll 39-41; col 19, ll 45-48: cost factor utilized in routing determination)

**Regarding Claims 12, 31,** McCanne discloses the method, apparatus according to claims 11, 30, further comprising increasing the route cost value if the server providing service is getting congested. (McCanne col 18, ll 39-41; col 18, ll 45-48: server congestion increased, cost factor utilized to determine server(s), look to more distant servers (increase route cost) to offload services)

**Regarding Claims 13, 32,** McCanne discloses the method, apparatus according to claims 11, 30, further comprising decreasing the route cost value if the server providing service has capacity for new service queries. (McCanne col 18, ll 39-41; col 18, ll 45-48: server congestion reduced, cost factor utilized to determine server to offload services)

**Regarding Claims 14, 33,** McCanne discloses the method, apparatus according to claims 1, 19, wherein the advertising message is an open shortest path first version 6 link state advertisement message. (McCanne col 5, ll 21-25: col 7, ll 42-52: IPv6 (anycast) communications; col 7, ll 34-40: advertisement messages (IPv6 communications); col 12, ll 50-54, col 8, ll 52-53: utilizing (open) shortest path protocol)

**Regarding Claim 16**, McCanne discloses the method according to claim 1, further comprising: sending an advertisement message with service load information.  
(McCanne col 12, ll 48-50; col 12, ll 55-57: advertisement, load balance information)

**Regarding Claim 17**, McCanne discloses the method according to claim 1, further comprising delivering the service load information of the server with a separate protocol  
(McCanne col 18, line 64 - col 19, line 8; col 19, ll 11-13: delivery server load information, from information database, different protocol and procedure)

**Regarding Claim 18**, McCanne discloses the method according to claim 1, wherein the service is domain name system service. (McCanne col 9, ll 33-42; col 9, line 61 - col 10, line 2: DNS (naming service) utilized in service provisioning)

**Regarding Claim 19**, McCanne discloses an apparatus, comprising:

- a) a service process configured to provide service on a communication link via which the server is adapter to receive messages from a router or other servers;  
(McCanne col 3, ll 45-54: provide a service; col 19, ll 27-34: messaging between servers and routers)
- b) a service-specific anycast address configured to a server interface on the communication link; (McCanne col 5, ll 21-25; col 5, ll 58-60: anycast (IPv6) address; col 7, ll 34-40: service advertisement)

- c) a monitor configured to monitor said service process and the service-specific anycast address configured interface; (McCanne col 6, ll 8-15: monitoring service processing)
- e) a transmitter configured to send an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling of the service scheduler. (McCanne col 7, ll 34-40: server advertisement, available service(s))

McCanne discloses the usage for an advertisement message. (McCanne col 7, ll 34-40: advertisement message(s) from server) McCanne does not explicitly disclose a scheduler configured to schedule.

However, Brown discloses:

- d) scheduling the service process; (Brown col 6, ll 1-7: selecting new intake as function of rating value (criteria: load parameter); selected resource (server) broadcasts message to rest of resources (servers) of identity as new intake; col 6, ll 14-23: if load value exceeds a predetermined threshold then the intake selects another resource (server) to be designated as the new intake; current intake resource (server) broadcasts a message to all other resources (servers) identifying new intake; col 5, ll 41-46: single entry point for service called an intake; col 5, ll 31-34: resource/server are equivalent)

Scheduling Process - Specification pg 5, ll 11-24, discloses: a scheduling process whereby a server broadcasts an anycast (address) message as the server to handle

all client requests for a time period (equivalent to the intake); after scheduled time period expires another server broadcasts an anycast (address) message to handle all client requests.

It would have been obvious to one of ordinary skill in the art to modify McCanne for scheduling the service process as taught by Brown. One of ordinary skill in the art would have been motivated to employ the teachings of Brown in order for balancing resource utilization in a cluster of resources by assigning related service requests to a specific resource to efficiently process the service requests. (Brown col 1, ll 6-10: “... *The present invention generally relates to a method and system for balancing resource utilization in a cluster of resources, and more specifically, to assigning related service requests to a specific resource to efficiently process the service requests. ...*”)

McCanne-Brown does not explicitly disclose determining the need for an advertisement message taking into account advertisement messages received to the service-specific anycast address from other servers. However, Cable discloses a need for an advertisement message, wherein configured to take into account in determining the need for an advertisement message advertisement messages received to the service-specific anycast address from other servers. (Cable col 4, ll 31-43: each server advertises its available bandwidth or capacity; server controller takes this information into account for all of the servers; then offers fair shares of the

servers' aggregate egress bandwidth; (server advises of unused capacities of all servers; then advertises aggregate unused capacity))

It would have been obvious to one of ordinary skill in the art to modify McCanne-Brown to take advertisement messages received from other servers into account in determining the need for an advertisement message as taught by Cable. One of ordinary skill in the art would have been motivated to employ the teachings of Cable in order for optimizing network service for users of packet switched networks and for determining the best server to satisfy a user's request and ensuring there is adequate bandwidth between that server and user. (Cable col. 1, lines 6-11)

**Regarding Claim 21**, McCanne discloses the apparatus to claim 19 wherein the transmitter is further configured to enclose service load information in the advertisement message. (McCanne col 12, ll 48-50; col 12, ll 55-57: routine message, load balance information transferred between routers)

**Regarding Claim 22**, McCanne discloses the apparatus to claim 19, wherein the service in the server is the domain name system service. (McCanne col 9, ll 33-42; col 9, line 61 - col 10, line 2: DNS naming service utilize in service provisioning)

**Regarding Claims 34, 35**, McCanne discloses a computer program embodied on a computer readable medium, the computer readable medium storing code comprising computer executable instructions, and an apparatus comprising:

- a) providing a service with a service process in a server; (McCanne col 3, ll 45-54; col 19, ll 27-34: service providing server)
- b) configuring a service-specific anycast address to a server interface on a communication link via which the server receives messages from a router or other servers; (McCanne col 4, ll 59-66: network layer load balance, services providing; col 5, ll 21-25; col 5, ll 58-60: anycast communications protocol (IPv6); col 5, ll 7-10: server farm (cluster), process services based on load; col 3, ll 45-54: servers provides messaging between servers)
- c) monitoring the service process and the service-specific anycast address configured interface; (McCanne col 6, ll 8-10; col 6, ll 25-26; col 12, ll 9-15: monitoring service processing of services)
- e) sending an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling. (McCanne col 7, ll 34-40: server advertisement, available service(s))

McCanne discloses the need for an advertisement message. (McCanne col 7, ll 34-40: advertisement message(s) from server) McCanne does not explicitly disclose scheduling the service process.

However, Brown discloses:

- d) scheduling the service process; (Brown col 6, ll 1-7: selecting new intake as function of rating value (criteria: load parameter); selected resource (server) broadcasts message to rest of resources (servers) of identity as new intake; col

6, ll 14-23: if load value exceeds a predetermined threshold then the intake selects another resource (server) to be designated as the new intake; current intake resource (server) broadcasts a message to all other resources (servers) identifying new intake; col 5, ll 41-46: single entry point for service called an intake; col 5, ll 31-34: resource/server are equivalent)

Scheduling Process - Specification pg 5, ll 11-24, discloses: a scheduling process whereby a server broadcasts an anycast (address) message as the server to handle all client requests for a time period (equivalent to the intake); after scheduled time period expires another server broadcasts an anycast (address) message to handle all client requests.

It would have been obvious to one of ordinary skill in the art to modify McCanne for scheduling the service process as taught by Brown. One of ordinary skill in the art would have been motivated to employ the teachings of Brown in order for balancing resource utilization in a cluster of resources by assigning related service requests to a specific resource to efficiently process the service requests. (Brown col 1, ll 6-10: “... *The present invention generally relates to a method and system for balancing resource utilization in a cluster of resources, and more specifically, to assigning related service requests to a specific resource to efficiently process the service requests. ...*”)

McCanne-Brown does not explicitly disclose wherein configured to take advertisement messages received to the service-specific anycast address from other



servers into account in determining the need for an advertisement message. However, Cable discloses wherein configured to take advertisement messages received to the service-specific anycast address from other servers into account in determining the need for an advertisement message. (Cable col 4, ll 31-43: each server advertises its available bandwidth or capacity; server controller takes this information into account for all of the servers; then offers fair shares of the servers' aggregate egress bandwidth; (server advises of unused capacities of all servers; then advertises aggregate unused capacity))

It would have been obvious to one of ordinary skill in the art to modify McCanne-Brown to take advertisement messages received from other servers into account in determining the need for an advertisement message as taught by Cable. One of ordinary skill in the art would have been motivated to employ the teachings of Cable in order for optimizing network service for users of packet switched networks and for determining the best server to satisfy a user's request and ensuring there is adequate bandwidth between that server and user. (Cable col. 1, lines 6-11)

**Regarding Claim 36, McCanne discloses an apparatus, comprising:**

- a) a service process configured to provide service on a communication link via which the server is adapted to receive messages from a router or other servers; (McCanne col 3, ll 45-54; col 19, ll 27-34: service providing server)
- b) a service-specific anycast address configured to a server interface on the communication link; (McCanne col 4, ll 59-66: network layer load balance,

services providing; col 5, ll 21-25; col 5, ll 58-60: anycast communications protocol (IPv6); col 5, ll 7-10: server farm (cluster), process services based on load; col 3, ll 45-54: servers provides messaging between servers)

- c) monitoring means for monitoring said service process and the service-specific anycast address configured interface; (McCanne col 6, ll 8-10; col 6, ll 25-26; col 12, ll 9-15: monitoring service processing of services)
- e) sending means for sending an advertisement message when the service process is able to provide the service via the communication link to all other servers in response to the scheduling of the service scheduling means. (McCanne col 7, ll 34-40: server advertisement, available service(s))

McCanne discloses the usage for an advertisement message. (McCanne col 7, ll 34-40: advertisement message(s) from server) McCanne does not explicitly disclose scheduling the service process.

However, Brown discloses:

- d) scheduling the service process; (Brown col 6, ll 1-7: selecting new intake as function of rating value (criteria: load parameter); selected resource (server) broadcasts message to rest of resources (servers) of identity as new intake; col 6, ll 14-23: if load value exceeds a predetermined threshold then the intake selects another resource (server) to be designated as the new intake; current intake resource (server) broadcasts a message to all other resources (servers)

identifying new intake; col 5, ll 41-46: single entry point for service called an intake; col 5, ll 31-34: resource/server are equivalent)

Scheduling Process - Specification pg 5, ll 11-24, discloses: a scheduling process whereby a server broadcasts an anycast (address) message as the server to handle all client requests for a time period (equivalent to the intake); after scheduled time period expires another server broadcasts an anycast (address) message to handle all client requests.

It would have been obvious to one of ordinary skill in the art to modify McCanne for scheduling the service process as taught by Brown. One of ordinary skill in the art would have been motivated to employ the teachings of Brown in order for balancing resource utilization in a cluster of resources by assigning related service requests to a specific resource to efficiently process the service requests. (Brown col 1, ll 6-10: “... *The present invention generally relates to a method and system for balancing resource utilization in a cluster of resources, and more specifically, to assigning related service requests to a specific resource to efficiently process the service requests. ...*”)

McCanne-Brown does not explicitly disclose determining the need for an advertisement message by taking into account advertisement messages received to the service-specific anycast address from other servers. However, Cable discloses wherein a need for an advertisement message, wherein the service scheduling means are configured to take into account in determining the need for an

advertisement message advertisement messages received to the service-specific anycast address from other servers. (Cable col 4, ll 31-43: each server advertises its available bandwidth or capacity; server controller takes this information into account for all of the servers; then offers fair shares of the servers' aggregate egress bandwidth; (server advises of unused capacities of all servers; then advertises aggregate unused capacity))

It would have been obvious to one of ordinary skill in the art to modify McCanne-Brown to take advertisement messages received from other servers into account in determining the need for an advertisement message as taught by Cable. One of ordinary skill in the art would have been motivated to employ the teachings of Cable in order for optimizing network service for users of packet switched networks and for determining the best server to satisfy a user's request and ensuring there is adequate bandwidth between that server and user. (Cable col. 1, lines 6-11)

**Regarding Claim 37**, McCanne discloses the apparatus to claim 36 further comprising means for enclosing service load information in the advertisement message. (McCanne col 12, ll 48-50; col 12, ll 55-57: advertisement, load balance information)

**Regarding Claim 38**, McCanne discloses the apparatus according to claim 36, wherein the service scheduling means are configured to delay the sending of a new advertisement message. (McCanne col 7, ll 49-52: stop sending packets, server to router)

**Regarding Claim 39**, McCanne discloses the apparatus according to claim 36, wherein the server comprises means for enclosing a route cost value suitable for the current situation of the service process in the server sending means in the advertisement message. (McCanne col 18, ll 39-41; col 19, ll 45-48: cost factor utilized in routing determination)

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kyung Hye Shin whose telephone number is (571)272-3920. The examiner can normally be reached on 9:30 am - 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tonia L. Dollinger can be reached on (571) 272-4170. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kyung Hye Shin  
Examiner  
Art Unit 2443

January 4, 2008

/Kyung Hye Shin/  
Examiner, Art Unit 2443